

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Appellant:	Charles R. WEIRAUCH	§	Confirmation No.:	4096
		§		
Serial No.:	10/618,115	§	Group Art Unit:	2627
		§		
Filed:	07/10/2003	§	Examiner:	T. A. Goma
		§		
For:	Optical Storage Medium	§	Docket No.:	200311928-1
	With Optically Detectable	§		
	Marks			

APPEAL BRIEF

Mail Stop Appeal Brief – Patents

Commissioner for Patents
PO Box 1450
Alexandria, VA 22313-1450

Date: September 29, 2008

Sir:

Appellant hereby submits this Appeal Brief in connection with the above-identified application. A Notice of Appeal is being filed concurrently herewith.

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I. REAL PARTY IN INTEREST

The real party in interest is Hewlett-Packard Development Company, L.P. (HPDC), a Texas Limited Partnership, having its principal place of business in Houston, Texas. HPDC is a wholly owned affiliate of Hewlett-Packard Company (HPC). The Assignment from the inventor to HPDC was recorded once on September 24, 2003, at Reel/Frame 013999/0744 and recorded a second time on December 1, 2003, at Reel/Frame 014168/0409.

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II. RELATED APPEALS AND INTERFERENCES

Appellant is unaware of any related appeals or interferences.

III. STATUS OF THE CLAIMS

Originally filed claims: 1-29.
Claim cancellations: 19-26.
Added claims: 30-32.
Presently pending claims: 1-18 and 27-32.
Presently appealed claims: 1-18 and 27-32.

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IV. STATUS OF THE AMENDMENTS

No claims were amended after the final Office action dated August 1, 2008.

V. SUMMARY OF THE CLAIMED SUBJECT MATTER

The specification is directed to an optical storage medium with optically detectable marks. **{Specification Title}**.¹ At least some of the illustrative embodiments are optical storage mediums as in claim 1:

1. An optical storage medium, comprising:
a disk-like body; **{1, [0018], lines 1-5; Figure 1A, element 100}** and
at least one optically detectable mark on the disk-like body **{2, [0021], lines 1-3; Figure 2A, element 210: 2, [0024], lines 1-6; Figure 2B, element 210}**, the at least one optically detectable mark being readable by a plurality of different optical systems configured for different types of optical storage media. **{2, [0021], lines 3-16}**

Other illustrative embodiments are methods as in claim 12:

12. A method for determining the type of an optical storage medium, comprising:
reading, from the optical storage medium using an optical system, at least one optically detectable mark that is readable by a plurality of different optical systems configured for different types of optical storage media; **{3, [0032], lines 11-13; Figure 5, element 510}** and
interpreting the at least one optically detectable mark to identify the type of the optical storage medium. **{3, [0032], lines 13-17; Figure 5, element 515}**

Yet still other illustrative embodiments are methods as in claim 15, having all the limitations of claim 12, and claim 15 further requiring:

15. The method of claim 13, wherein the optically detectable marks comprising the band are spaced sufficiently far apart to be detectable by an optical system achieving a predetermined largest expected focus spot. **{2, [0023], lines 6-10}**

¹ For consistency, citations to the Specification are to the application as published at US 2005/0007926A1, and take the form **{[page], [paragraph], lines [lines within the paragraph]}**

Other illustrative embodiments are optical devices as in claim 27:

27. An optical device, comprising: an optical system to read, from an optical storage medium, at least one optically detectable mark that is readable by a plurality of different optical systems configured for different types of optical storage media **{3, [0030], lines 1-19; Figure 4, at least elements 415 and 425}**; and logic configured to interpret the at least one optically detectable mark. **{3, [0031], lines 1-8; Figure 4, element 420}**

Yet still other illustrative embodiments are devices as in claim 29:

29. An optical device, comprising: means for reading², from an optical storage medium, at least one optically detectable mark that is readable by a plurality of different optical systems configured for different types of optical storage media **{3, [0030], lines 1-19; Figure 4, at least elements 415 and 425}**; and means for interpreting³ the at least one optically detectable mark. **{3, [0031], lines 1-8; Figure 4, element 420}**

Other illustrative embodiments are storage mediums as in claim 30:

30. An optical storage medium comprising:
a disk-like body comprising a central aperture and a data area configured to store data in a binary format along circular tracks; **{1, [0018], lines 1-14; Figure 1A, elements 105, 120}**
a plurality of optically detectable marks on the disk-like body arranged in a curved pattern at least partially around the central aperture, the plurality of optically detectable marks outside the data area, and the plurality of optically detectable marks encode information in the [sequential]⁴ arrangement of the marks along the curved pattern; **{2, [0021], lines 1-3; Figure 2A, element 210; 2, [0024], lines 1-6; Figure 2B, element 210}**

² This limitation is specifically identified as a means-plus-function limitation under 35 USC § 112, sixth paragraph.

³ This limitation is specifically identified as a means-plus-function limitation under 35 USC § 112, sixth paragraph.

⁴ Claims 30-32 are objected-to regarding the typographical error regarding “sequentially” rather than “sequential.” Appellant requests the objection be held in abeyance pending this Appeal.

the plurality of optically detectable marks configured to be readable, as the disk-like body rotates, by both:

- an optical pickup unit configured to read a data area of an optical storage medium that cannot focus on the data area of the disk-like body; {2, [0021], lines 7-16} and
- an optical pickup unit configured to read a data area of an optical storage medium that can focus on the data area of the disk-like body. {*Id.*}

VI. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

Whether claims 30-32 are anticipated under 35 USC § 102(e) by Kondo (U.S. Pat. No. 6,600,716).

Whether claims 1-18 and 27-29 are obvious under 35 USC § 103(a) by Satoh et al. (U.S. Pat. No. 5,119,363, hereafter "Satoh") and Kondo.

VII. ARGUMENT

A. Section 102 Rejections over Kondo

1. Claims 30-32

Claims 30-32 stand rejected as allegedly anticipated by Kondo. Claim 30 is representative of this grouping of claims. The grouping should not be construed to mean that the patentability of any of the claims may be determined in later actions (*e.g.*, actions before a court) based on the groupings. Rather, the presumption of 34 USC § 282 shall apply to each of these claims individually.

Kondo is directed to an information recording medium and reproducing apparatus therefore.⁵ In particular, Kondo discloses several embodiments for placing information on an optical disk, the information regarding proper methods of disposal and/or recycling, and the information termed “environmental load” information in Kondo.⁶ Kondo discloses a plurality of embodiments. For example, in Kondo’s first embodiment, a portion of the main information area is designated as a recording area for environmental load information.

In Figure 3, an optical disk 100 comprises a recording area 101 for environmental load information, [and] a main information area 102... . The recording area 101 is provided within the main information area 102.⁷

Kondo also describes a fifth embodiment with respect to Figure 6 where the environmental load information is placed in an engraving area 508 of the disk abutting the center aperture “H.”⁸

In the engraving area 508, a title number of the optical disk 500 and a stamper number are recorded in a circular arc by visible letters. ... An environmental load information can be recorded in the blank angle or a blank space and the blank space can be assigned to the recording area 501 for environmental load information.⁹

⁵ Kondo Title.

⁶ Kondo Abstract.

⁷ Kondo Col. 9, lines 37-41.

⁸ Kondo Col. 14, lines 1-14.

⁹ Kondo Col. 14, lines 8-14.

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In the fifth embodiment of Kondo, the environmental load information can be a bar code, a picture, a hologram, or a visible letter.¹⁰ However, Kondo fails to teach that the environmental load information in the engraving area 508 is readable in any form by the device that reads the main information area 2, or vice versa.

Representative claim 30, by contrast, specifically recites, “a plurality of optically detectable marks on the disk-like body arranged in a curved pattern at least partially around the central aperture, the plurality of optically detectable marks outside the data area.” The Office action relies on Kondo’s fifth embodiment regarding the “outside the data area” limitation.¹¹ However, representative claim 30 further recites, “the plurality of optically detectable marks configured to be readable...by both: an optical pickup unit configured to read a data area of an optical storage medium that cannot focus on the data area of the disk-like body; and an optical pickup unit configured to read a data area of an optical storage medium that can focus on the data area of the disk-like body.” Kondo fails to expressly or inherently teach that the environmental load information in the engraving area 508 can be read by an “an optical pickup unit configured to read a data area of an optical storage medium that can focus on the data area of the disk-like body.” In fact, Kondo expressly teaches that the environmental load information in the engraving area is read either visually, or by way of a CCD array (which is effectively visually). For this reason alone the rejection should be overturned and the claims set for issue.

Moreover, regarding the limitations “optically detectable marks configured to be readable...by,” the Office action relies on Kondo’s Col. 11, lines 8-15; however, Kondo’s Col. 11, lines 8-15 is directed to Kondo’s first embodiment, which first embodiment is expressly directed to placing the environmental load information in the main information area 102. A system of reading marks inside the main information area 102 according to Col. 11, lines 8-15 of Kondo’s first embodiment fails to expressly or inherently teach reading visual marks in the

¹⁰ Kondo Col. 14, lines 33-48.

¹¹ Office action of August 1, 2008, page 2, paragraph spanning pages 2 and 3. “[T]he plurality of optically detectable marks outside the data area (2, fig. 6)...”

engraving area 508 of Kondo's fifth embodiment. Stated otherwise, even if hypothetically Kondo's first embodiment teaches two systems to read the marks in the main information area 102 (which Appellant does not admit), Kondo still fails to teach that two reading systems of the first embodiment could read visual marks in the engraving area 508 of Kondo's fifth embodiment. For this additional reason the rejections should be overturned and the claims set for issue.

Further still, the Office action relies upon Kondo's Col. 11, lines 8-15 for the optical systems that can focus and cannot focus; however, the cited location clearly teaches each system can focus on the main information area, and in fact use the same wavelength light source:

If the recording area 101 is recorded with a DVD signal, for example, the environmental load information can be reproduced by a DVD reproducing apparatus as well as a reproducing apparatus for a high density optical disk utilizing a light source of 350 to 550 nm for reproduction. Accordingly, such the environmental load information can be widely utilized although a reproducing apparatus for a high density optical disk is not commonly available.¹²

It is clear that both the DVD and "high density optical disk" can focus on the environmental load information in the main information area. Thus, Kondo fails to expressly or inherently teach, "the plurality of optically detectable marks configured to be readable...by both: **an optical pickup unit** configured to read a data area of an optical storage medium **that cannot focus** on the data area of the disk-like body; **and an optical pickup unit** configured to read a data area of an optical storage medium **that can focus** on the data area of the disk-like body."

Based on the foregoing, Appellant respectfully submits that the rejections of the claims in this first grouping be reversed, and the claims set for issue.

B. Section 103 Rejections over Satoh and Kondo

1. Claims 1-18 and 27-29

Claims 1-14, 16-18 and 27-29 stand rejected as allegedly obvious over Satoh and Kondo. Claim 12 is representative of this grouping of claims. The grouping should not be construed to mean that the patentability of any of the

¹² Kondo Col. 11, lines 8-15.

claims may be determined in later actions (*e.g.*, actions before a court) based on the groupings. Rather, the presumption of 34 USC § 282 shall apply to each of these claims individually.

Satoh is directed to optical disks having an index mark.¹³ In particular, Satoh discloses a system having an index mark 9 that is used to identify a point on the disk 1 as the starting point of rotation such that features of the disk (*e.g.*, the address region) may be easily identified during rotation.¹⁴ The Office action states “Satoh ... fails to disclose marks that are readable by different optical systems...”¹⁵ Appellant agrees.

In an attempt to overcome the shortcomings of Satoh, the Office action relies on the ninth embodiment of Kondo’s at Col. 18, lines 24-30 and in reference to Kondo’s Figure 12. Figure 12 and the section relied upon are reproduced immediately below.

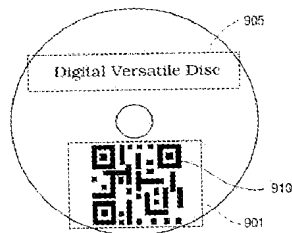


Fig. 12

An environmental load information is recorded as a linear two-dimensional bar code. An optical head or a CCD can read out the two-dimensional bar code. Particularly, the bar code is linear, so that a bar code reader can read out the bar code **without rotating the optical disk 900**. Accordingly, the optical disk 900 is convenient for a treater of recycling or disposing.¹⁶

Thus, Kondo expressly teaches that reading of the bar code is without rotating the optical disk.

¹³ Satoh Title.

¹⁴ Satoh Col. 4, lines 15-21.

¹⁵ Office action of August 1, 2008, page 6, first full paragraph.

¹⁶ Kondo Col. 18, lines 24-30 (emphasis added).

The Manual of Patent Examining Procedures (MPEP) provides the following guidance regarding considering references together when formulation rejections.

THE PROPOSED MODIFICATION CANNOT CHANGE THE
PRINCIPLE OF OPERATION OF A REFERENCE

If the proposed modification or combination of the prior art would change the principle of operation of the prior art being modified, then the teachings of the references are not sufficient to render the claims *prima facie* obvious.¹⁷

Appellant respectfully submits that considering Satoh with Kondo is improper. Satoh expressly teaches the index marks 9 indicate particular rotational positions on the disk, and that the disk is rotated to read index marks 9. The portion of Kondo relied upon by the Office action expressly teaches the opposite, that the disk is not rotated to read the two-dimensional bar code. If the bar code of Kondo is used as the index mark 9 of Satoh, this changes the express principle of operation of Kondo. On the other hand, if Satoh's index marks replace Kondo's two-dimensional bar code, this again changes the express teaching of Kondo regarding non-rotational reading. For this reason alone the rejection should be overturned and the claims set for issue.

Moreover, Appellant respectfully submits that even if hypothetically Satoh is considered with Kondo (which Appellant does not admit is proper), Satoh and Kondo still fail to teach the claim limitations. That is, one of ordinary skill in the art would only consider that the environmental load information encoding as taught by Kondo could be included in a disk that also includes the index marks of Satoh, not that the index marks used to identify a point on the disk as the starting point of rotation should be modified based on environmental load information, particularly given the size of the marks as shown above.

Based on the foregoing, Appellant respectfully submits that the rejections of the claims in this second grouping be reversed, and the grouping set for issue.

¹⁷ MPEP 8th Ed., Rev. 6, September 2007, § 2143.01(VI), p. 2100-141 (emphasis original).

2. Claim 15

Claim 15 stands rejected as allegedly obvious over Satoh and Kondo.

Claim 15 has all the limitations of claims 12 and 13, and further recites, “wherein the optically detectable marks comprising the band are spaced sufficiently far apart to be detectable by an optical system achieving a predetermined largest expected focus spot.” The Office action relies on Satoh Col. 1, line 66 through Col. 2, line 3 for this limitation.¹⁸ The cited location is reproduced below for convenience of the discussion.

Although the address information region may be used as such a mark, it is not practical to do so because a detection signal, obtained as a result of searching a track by moving the tiny spot of light at high speed, suffers from irregularity due to noises.¹⁹

The cited location discusses moving the “tiny spot of light”, but fails to teach, suggest or even imply a largest expected focus spot. In fact, the “tiny spot of light” in Satoh is focused to achieve a small size, not a largest size.

[A] tiny spot of laser light beam, which is focused so that the diameter is less than 1 micrometer, is applied on the optical disk.²⁰

Thus, Satoh and Kondo fail to teach or suggest “wherein the optically detectable marks comprising the band are spaced sufficiently far apart **to be detectable by an optical system achieving a predetermined largest expected focus spot.**”

Claim 15 is allowable for at least the same reasons as claims 12 and 13, as well as for the additional limitations therein.

C. Conclusion

For the reasons stated above, Appellant respectfully submits that the Examiner erred in rejecting all pending claims. It is believed that no extensions of time or fees are required, beyond those that may otherwise be provided for in documents accompanying this paper. However, in the event that additional extensions of time are necessary to allow consideration of this paper, such

¹⁸ Office action of August 1, 2008 Page 7, second full paragraph.

¹⁹ Satoh Col. 1, line 66 through Col. 2, line 3.

²⁰ Satoh Col. 1, lines 12-15.

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extensions are hereby petitioned under 37 C.F.R. § 1.136(a), and any fees required (including fees for net addition of claims) are hereby authorized to be charged to Hewlett-Packard Development Company's Deposit Account No. 08-2025.

Respectfully submitted,

/mes/

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VIII. CLAIMS APPENDIX

1. (Original) An optical storage medium, comprising:
a disk-like body; and
at least one optically detectable mark on the disk-like body, the at least one optically detectable mark being readable by a plurality of different optical systems configured for different types of optical storage media.
2. (Original) The optical storage medium of claim 1, wherein the at least one optically detectable mark is located on a buried layer of the optical storage medium.
3. (Original) The optical storage medium of claim 2, wherein the buried layer is a non-data layer of the optical storage medium.
4. (Original) The optical storage medium of claim 2, wherein the buried layer is a data layer of the optical storage medium.
5. (Original) The optical storage medium of claim 1, wherein the at least one optically detectable mark is located on a surface of the optical storage medium.
6. (Original) The optical storage medium of claim 1, wherein the at least one optically detectable mark is located within a non-user-data area of the optical storage medium.
7. (Original) The optical storage medium of claim 6, wherein the non-user-data area comprises a lead-in area of the optical storage medium.
8. (Original) The optical storage medium of claim 6, wherein the non-user-data area comprises a lead-out area of the optical storage medium.

9. (Original) The optical storage medium of claim 1, wherein the at least one optically detectable mark is uniform in width along an axis coinciding with a radius of the optical storage medium.

10. (Original) The optical storage medium of claim 1, wherein the at least one optically detectable mark is shaped approximately like a sector of an annulus.

11. (Original) The optical storage medium of claim 1, wherein the at least one optically detectable mark is trapezoidal in shape.

12. (Original) A method for determining the type of an optical storage medium, comprising:

reading, from the optical storage medium using an optical system, at least one optically detectable mark that is readable by a plurality of different optical systems configured for different types of optical storage media; and

interpreting the at least one optically detectable mark to identify the type of the optical storage medium.

13. (Original) The method of claim 12, wherein the optical storage medium comprises a circular disc and the at least one optically detectable mark comprises a band of optically detectable marks disposed around a circle concentric with the circumference of the optical storage medium.

14. (Original) The method of claim 13, wherein the optically detectable marks comprising the band are uniformly spaced.

15. (Original) The method of claim 13, wherein the optically detectable marks comprising the band are spaced sufficiently far apart to be detectable by an optical system achieving a predetermined largest expected focus spot.

16. (Original) The method of claim 13, wherein interpreting the at least one optically detectable mark to identify the type of the optical storage medium comprises measuring the spacing of the optically detectable marks comprising the band.

17. (Original) The method of claim 12, wherein interpreting the at least one optically detectable mark to identify the type of the optical storage medium comprises measuring at least one dimension of the at least one optically detectable mark.

18. (Original) The method of claim 12, wherein the type comprises at least one of CD, DVD, Blu-ray, and AOD.

19.-26. (Canceled).

27. (Original) An optical device, comprising: an optical system to read, from an optical storage medium, at least one optically detectable mark that is readable by a plurality of different optical systems configured for different types of optical storage media; and logic configured to interpret the at least one optically detectable mark.

28. (Original) The optical device of claim 27, wherein the optical device comprises at least one of a DVD device, a CD device, a Blu-ray device, an AOD device, and a computer optical drive.

29. (Original) An optical device, comprising: means for reading, from an optical storage medium, at least one optically detectable mark that is readable by a plurality of different optical systems configured for different types of optical storage media; and means for interpreting the at least one optically detectable mark.

30. (Previously presented) An optical storage medium comprising:
- a disk-like body comprising a central aperture and a data area configured to store data in a binary format along circular tracks;
 - a plurality of optically detectable marks on the disk-like body arranged in a curved pattern at least partially around the central aperture, the plurality of optically detectable marks outside the data area, and the plurality of optically detectable marks encode information in the sequentially arrangement of the marks along the curved pattern;
 - the plurality of optically detectable marks configured to be readable, as the disk-like body rotates, by both:
 - an optical pickup unit configured to read a data area of an optical storage medium that cannot focus on the data area of the disk-like body; and
 - an optical pickup unit configured to read a data area of an optical storage medium that can focus on the data area of the disk-like body.
31. (Previously presented) The optical storage medium of claim 30 wherein each optically detectable mark has radial size configured to be readable by the optical pickup unit in the absence of radial tracking.
32. (Previously presented) The optical storage medium of claim 30 wherein at least one optically detectable mark has a width, measured along the curved pattern, of from 1 to 3 millimeters.

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IX. EVIDENCE APPENDIX

None.

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X. RELATED PROCEEDINGS APPENDIX

None.